

Eye and Face Protection Selection Chart

Source	Hazard	Protection
IMPACT - Chipping, grinding machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and sanding	Flying fragments, objects, large chips, small particles, sand, dirt, etc.	Spectacles with side protection, at a minimum for large particles, goggles for grinding/sawing and fine particles and dust, face shield. <i>For severe exposure, use face shield. See note 5.</i>
HEAT - Furnace operation and arc welding, plasma cutting, torch cutting applications	Hot sparks	Face shields, spectacles with side protection. For severe exposure use face shield.
CHEMICALS - Acid and chemical handling, degreasing, plating, overhead painting operations	Splash	Goggles, eyecup and cover type. <i>For severe exposure, use face shield. See notes 4 and 6.</i>
DUST - Woodworking, buffing, general dusty conditions.	Nuisance dust	Goggles, eyecup and cover type.
LIGHT and/or RADIATION		
Welding: Electric arc	Optical radiation	Welding helmets or welding shields. <i>See notes 1, 2 and 3.</i>
Welding: Gas	Optical radiation	Welding goggles or welding face shield. <i>See note 1.</i>
Cutting, Torch brazing, Torch soldering	Optical radiation	Spectacles or welding faceshield. <i>See notes 1 and 4.</i>
Glare	Poor vision	Spectacles with shaded or special-purpose lenses, as suitable. <i>See notes 1 and 5.</i>

Notes to Eye and Face Protection Selection Chart:

1. Welding helmets or face shields should be used only over primary eye protection (spectacles or goggles).
2. Protection from light radiation is directly related to filter lens density. Select the darkest shade that allows you to do the job task.
3. Tinted and shaded lenses are not filter lenses unless they are marked or identified as such.
4. Face shields should only be worn over primary eye protection (spectacles or goggles).
5. Non-side shield spectacles are available for frontal protection only, but aren't acceptable eye protection for the sources and operations listed for "impact".
6. Ventilation should be adequate, but well protected from splash entry. Eye and face protection should be designed and used so that it provides both adequate ventilation and protects the wearer from splash entry.

Filter Lenses for Protection Against Radiant Energy

Operations	Electrode Size 1/32 inch	Arc Current	Protective Shade
Shielded metal arc welding	Less than 3	Less than 60	7
	3-5	80-160	8
	5-8	160-250	10
	More than 8	250-550	11
Torch brazing			3
Torch soldering			2

Note: As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.

ANSI Z87.1-1989 (R-1998) is the standard used by OSHA to determine the minimum required protection PPE must provide in order to be acceptable. Only purchase eye and face protection which meet this standard.